Remarks

By this Amendment, claims 11, 25, 29, and 30 are amended, and new claims 52 and 53 are added to the application. After entry of this Amendment, claims 1-53 are pending. Applicants request reconsideration in view of the requested amendments and the following remarks.

I. Restriction Requirement

Applicants affirm the earlier provisional election (made with traverse) of Group I, claims 1-39. Applicants also request rejoinder of the Group II claims and the Group III claims with the Group I claims for prosecution in the present application.

The Restriction Requirement contends that the claims as filed are directed to the following distinct inventions: (1) Group I (claims 1-39); (2) Group II (claims 40-43 and 51); and Group III (claim 44). Claims 45-50 are not addressed in the Restriction Requirement. For the purpose of responding to the Restriction Requirement, Applicants assume that these claims were meant to be classified in Group III.

A. Groups I and III

The Office action contends that Groups I and III are related as an apparatus and product made from the apparatus, and that they are distinct because "the apparatus as claimed could be used for making a different product such as adobe blocks or the blocks as claimed can be made by another and materially different (emphasis added) apparatus such as a press having a ram on one side and a pressing plate on the other side." See page 2 of the Office action. Applicants traverse this contention.

The claims of Group III are directed to a masonry block. Webster's Revised Unabridged Dictionary (1913) (available online at http://machaut.uchicago.edu/cgi-bin/Webster) defines "masonry" as "anything constructed of the materials used by masons, such as stone, brick, tiles, or the like." (a print-off is attached as Exhibit A). The ordinary meaning of the term "masonry" is not limited to structures that are made from a specific type of material. Thus, the masonry blocks recited in the claims of Group III could be made of any of various suitable building materials, including concrete, adobe, clay, or various combinations thereof.

Additionally, the apparatus as claimed is broad enough to cover an apparatus that has a press comprising a ram on one side and a pressing plate on the other side. In fact, the embodiment shown in FIGS. 4 and 5 of the patent application includes a mold having a pusher plate 74 on one side of the mold 62 and a pallet 70 on the other side of the mold. The pusher plate 74 can be connected to a hydraulic ram. See page 6, lines 31-32 of the application. When forming a block, the pusher plate 74 and pallet 70 can be used as a press to densify the uncured block in the mold. See page 9, lines 17-18 of the application.

The reasons given in support of the restriction of Groups I and III only show that these groups are highly related, not that they are distinct, as required by MPEP § 806.05(g). Thus, the restriction of Groups I and III must be withdrawn.

B. Groups I and II

The Examiner contends that Groups II and I are related as a process and an apparatus for its practice, and that they are distinct because "the apparatus as claimed can be used to practice another materially different (emphasis added) process in which the material is vibrated within the mold cavity during the forming process." See pages 2-3 of the Office action. Applicants traverse this contention.

The process as claimed (Group II) is broad enough to cover a process that includes vibrating the block-forming material in the mold cavity during the forming process. In fact, the patent application specifically states, with reference to FIG. 4, that mold 62 or pallet 70, or a combination of both can be vibrated after block-forming material is introduced into the mold 62. See page 9, lines 13-18 of the application. New dependent claim 53, which depends from claim 40, recites "vibrating the mold walls to help densify the block-forming material therein." If anything, the Examiner's contention that the apparatus can be used in a process that includes vibration only reinforces that they are highly related, not that they are distinct. Thus, the restriction of Groups I and II must be withdrawn.

C. Groups II and III

The Examiner contends that Groups II and III are related as a process of making and a product made by the process, and that they are distinct because "the process as claimed can be used to make another and materially different (emphasis added) product such as adobe blocks or

ice blocks; or the product as claimed can be made by another and materially different (emphasis added) process such as the blocks vibratedly formed in the mold cavity." See page 3 of the Office action. Applicants traverse this contention.

Applicants agree that the process as claimed (Group II) can be used to make adobe blocks. However, as discussed above, the product as claimed (Group III) cover masonry blocks made from any of various suitable materials, including adobe.

Applicants disagree that the process as claimed could be used to make ice blocks, since claim 40 recites moving a mold cavity relative to an uncured block in the mold to produce a roughened texture on the block. If water is used as the block-forming material, it would be physically impossible to produce a roughened texture on the uncured block (i.e., liquid water).

Also, Applicants agree that the product as claimed (Group III) could be made by a process that includes vibrating the blocks in a mold cavity. However, as discussed above, the process as claimed (Group II) is actually broad enough to cover such a process. Also, new dependent claim 53 of Group II specifically recites the act of vibrating mold walls.

Since the claims of Group II and III have not been shown to be distinct, the restriction of these groups must be withdrawn.

D. No Serious Burden

Applicants respectfully submit that the pending claims are sufficiently related such that a thorough search and examination of the entire application can be made without serious burden. Therefore, as specified in MPEP §803, "the Examiner must examine [the entire application] on the merits, even though it includes claims to independent or distinct inventions."

II. Rejection of Claims 1-39

Claims 1-39 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Japanese Patent No. 2001-191314 to Yoshiyuki (Yoshiyuki) in view of Japanese Patent No. 07-052133 to Yasuo et al. (Yasuo). Applicants traverse this rejection and request that it be withdrawn.

Claims 1-10

Claim 1 recites an apparatus for molding a masonry block. The apparatus comprises a mold comprising a plurality of walls defining at least one mold cavity. At least one wall has a

plurality of tapered projections that contact an adjacent surface of an uncured block in the mold, "whereby when the uncured block is removed from the mold cavity, the projections texture the adjacent surface of the uncured block."

The Office action concedes that Yoshiyuki fails to disclose a mold having tapered projections, as recited in claim 1. See page 4 of the Office action. The Office action then contends that it would have been obvious to one of ordinary skill in the art to modify the mold disclosed in Yoshiyuki by providing the mold with a plurality of pyramidal shaped projections as taught by Yasuo. See page 5 of the Office action. Applicants disagree.

Both Yoshiyuki and Yasuo teach away from making the specific combination of elements recited in the claim 1. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be . . . led in a direction divergent from the path that was taken by the Applicant . . . ." *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1360, 52 U.S.P.Q. 2d 1294, 1298 (Fed. Cir. 1999). Teaching away from making the specific combination of elements recited in a claim is a demonstration that the reference teachings do not render the claim *prima facie* obvious. *See In re Rudko*, 1999 U.S. App. LEXIS 9190 (Fed. Cir. 1999) and *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

In this case, both Yoshiyuki and Yasuo teach away from the invention of claim 1 because both references teach apparatuses for casting a mirror image of a mold wall into the surface of a block, rather than an apparatus for creating a roughened surface texture on an uncured block as it is removed from a mold.

For example, Yoshiyuki is presently understood to disclose a mold 200 having walls 230, which are formed with a plurality of projections 232 and cavities 233 (see FIG. 4). To form a block, the mold is filled with concrete material, which is allowed to harden inside the mold. See paragraph 31 of Yoshiyuki. Also, a heater is used to facilitate curing (hardening) of the block in the mold. See paragraph 32 of Yoshiyuki. The projections 232 and cavities 233 cast a corresponding surface pattern of similarly shaped projections and cavities on the surface of the cured block while it is still in the mold; that is, a mirror image of the projections and cavities is formed on the surface of the block. See paragraph 10 of Yoshiyuki.

In contrast, the apparatus of claim 1 includes a mold wall with projections that contact a surface of an uncured block in the mold cavity and cause that surface to become textured as it is removed from the mold cavity. Yoshiyuki's teachings of casting a mirror image of the mold

wall into the block and removing the block from the mold after it cures run directly counter to the apparatus of claim 1.

Also, Yoshiyuki further teaches away from a mold that textures a block surface as the uncured block is removed from the mold because the mold walls 230 of Yoshiyuki are tapered at the bottom to form a gap between the block and the mold walls (see FIG. 5b of Yoshiyuki). This facilitates removal of the cured, hardened block from the mold by minimizing contact between the mold walls and the block as it is removed from the mold. See paragraph 14 of Yoshiyuki. The tapered mold walls 230 are understood to avoid abrading or texturing the surfaces of a block as it is removed from the mold so that the final shape of the block surfaces, as molded by the mold walls, is preserved.

Yasuo does not make up for the deficiencies of Yoshiyuki. Yasuo is understood to disclose a mold having a plurality of pyramid-shaped projections. The mold is used to form a mirror image of the pyramids in the surface of a concrete slab. See FIGS. 1a and 1b of Yasuo. Again, Yasuo teaches away from the claimed apparatus, which concerns an apparatus that textures the surface of an uncured block as it is removed from a mold cavity. Also, a block formed by the claimed apparatus has a roughened surface texture that resembles a split block. The surface of Yasuo's concrete slab (Fig. 1b) clearly does not have a roughened surface texture that looks like the surface of a split block. Instead, Yasuo, like Yoshiyuki, has a surface that mirrors the surface of the mold.

In short, neither Yoshiyuki nor Yasuo teaches a mold that textures the surface of an uncured block as it is removed from the mold, as required by claim 1. Instead, they both teach a mold that molds a surface configuration into the block and then removes the cured, hardened block from the mold.

Further, the disclosures of Yoshiyuki and Yasuo teach away from each other. For example, the Yoshiyuki mold includes mold walls 230 that are tapered at the bottom to minimize contact between the inside of the mold and the block and therefore allow the block to be removed from the mold. See paragraphs 10, 14 and 31 of Yoshiyuki. On the other hand, the Office action states that the use of the Yasuo device "would increase the contacting surface between the mold and the concrete material." See page 5 of the Office action. It appears that increasing the contacting surface would inhibit the removal of a cured block from a mold. Thus,

without the benefit of Applicants' disclosure, which can be used in hindsight, one skilled in the art would be led away from combining the disclosures of Yoshiyuki and Yasuo.

For the foregoing reasons, claim 1 is not anticipated or rendered obvious by Yoshiyuki or Yasuo (either alone or in combination) and is allowable.

Claims 2-10 depend from claim 1 and are allowable for the reasons given above in support of claim 1 and because each dependent claim sets forth an independently patentable combination of features.

For example, neither Yoshiyuki nor Yasuo teaches or suggests "each projection [having] two generally upwardly facing side surfaces and two generally downwardly facing side surfaces," as recited in claim 9. In the rejection of claim 9, the Office action contends that "it has been held that by merely shifting the position of the parts without changing the operation of the mechanism will not render the claims patentable and the placement of the mechanism is an obvious matter of design choice." See page 5 of the Office action. However, Applicants disagree that the positioning of the projections is merely a matter of design choice because the positioning of the projections affects the final surface texture of the block. By positioning the projections in the manner recited in claim 9, the mold can achieve a more consistent and desired texture across the block surface that is roughened by the projections.

Also, neither Yoshiyuki nor Yasuo teach or suggest "two generally upwardly facing side surfaces of each projection [having] slopes as measured from the vertical that are less than the slopes of the two generally downwardly facing side surfaces," as recited in claim 10. In the rejection of claim 10, the Office action states that "the JP'133 [Yasuo] has recognized that a slant face redistributes the compression force and increase[s] shear strength (§ 0012-0014); thus, it would have been obvious . . . to modify the JP'314 [Yoshiyuki] by providing a larger slant surface in the compression direction to reduce stress concentration on the surface of the concrete blocks." See pages 5-6 of the Office action. Even if Yasuo does teach "that a slant face redistributes the compression force and increase[s] shear strength," as Yasuo is presently understood, there is no disclosure in Yasuo that concerns increasing or decreasing the slope of the projections to affect the compression or shear strength of the surface of the block. Nor does Yasuo explain why it would be desirable to provide projections having one side surface with a slope that is greater than the slope of another surface. If the Examiner disagrees, Applicants

respectfully request the Examiner to further explain the relevance of Yasuo with respect to claim 10.

Claims 11-19

Claim 11, as amended, recites an apparatus for molding a masonry block comprising a mold having an interior surface defining at least one mold cavity. The interior surface includes rows of projections positioned side-by-side in each row, with each projection having a respective base that adjoins a base of an adjacent projection in the same row. Claim 11 also recites that when the uncured block is removed from the mold cavity, the projections create a roughened texture on the surface of the uncured block. Neither Yoshiyuki nor Yasuo (either alone or in combination) teaches or suggests such an apparatus.

For example, the primary reference, Yoshiyuki, does not teach a mold having rows of projections positioned side-by-side in each row, with each projection having a respective base that adjoins a base of an adjacent projection in the same row, as recited in claim 10.

In addition, there is no teaching or suggestion to combine Yoshiyuki and Yasuo because both references, taken alone or together, teach away from making the specific combination of elements recited in claim 11. For example, both references teach casting a mirror image of a mold wall into the surface of a concrete body. Also, Yoshiyuki teaches away from the apparatus of claim 11 because the mold walls 230 of Yoshiyuki are tapered at the bottom, which are understood to avoid abrading the adjacent surfaces of a block as it is removed from the mold so that the final shape of the block surfaces, as molded by the mold walls, is preserved.

Further, Yasuo teaches away from Yoshiyuki (the Office action contends that Yasuo teaches increasing the contact area between a mold and a block; however, Yoshiyuki teaches minimizing the contact area). Also, the increased contact area of Yoshiyuki is not provided for the purpose of abrading or roughening the surface of an uncured block.

Claims 12-19 depend from claim 11 and are allowable for the reasons given above in support of claim 11 and because each dependent claim sets forth an independently patentable combination of features. For example, neither Yoshiyuki nor Yasuo teach or suggest "rows of projections extend[ing] diagonally across the interior surface of the mold so as to define diagonally extending grooves between adjacent rows of projections," as recited in amended claim 18. As can be appreciated from FIGS. 1a and 1b of Yasuo, the mold that is used to cast concrete slab 1 has horizontal rows of projections which define a plurality of V-shaped channels

or grooves extending between opposite edges of the mold. In contrast, as can be appreciated from FIGS. 1 and 3 of the present application, arranging the projections in diagonal rows rather than horizontal rows eliminates these V-shaped grooves extending between opposite edges the mold wall. Instead, the rows of projections in claim 18 defined grooves that extend diagonally across the interior surface of the mold. This provides a significant advantage over the Yasuo design in that it minimizes the retention of block-forming material on the surface of the mold when an uncured block is stripped from the mold.

Claims 20-24

Claim 20 is directed to an apparatus for molding masonry blocks. The apparatus comprises a mold comprising first and second mold cavities and a separating member separating the first and second mold cavities and having first and second major surfaces. A plurality of inwardly extending block-texturing members are located along the first and second major surfaces of the separating member between the top and bottom of the mold. The block-texturing members are configured to produce a roughened texture on adjacent surfaces of first and second blocks as they are removed from the first and second mold cavities. Neither Yoshiyuki nor Yasuo (either alone or in combination) teaches or suggests such an apparatus.

Claims 21-24 depend from claim 20 and are allowable for the reasons given above in support of claim 20 and because each dependent claim sets forth an independently patentable combination of features.

Claims 25-28

Claim 25 recites an apparatus for molding masonry blocks. The apparatus comprises a mold comprising a plurality of walls forming first and second mold cavities and said walls including a separating member separating the first and second mold cavities. A plurality of projections are disposed on at least one of said walls of the mold and extend into the first mold cavity, and a plurality of projections are disposed on at least one of said walls of the mold and extend into the second mold cavity. Also, a plurality of projections are disposed on at least one surface of the separating member and extend into an adjacent mold. The projections produce at least two roughened surfaces on one block and at least one roughened surface on another block when the blocks are removed from the mold cavities. Neither Yoshiyuki nor Yasuo (either alone or in combination) teaches or suggests such an apparatus.

Claims 26-28 depend from claim 25 and are allowable for the reasons given above in support of claim 25 and because each dependent claim sets forth an independently patentable combination of features.

Claims 29-35

Claim 29, as amended, recites a wall for use in a mold for molding a masonry block. The wall comprises a body having first and second major surfaces, with at least one of the first and second major surfaces having a plurality of projections extending outwardly therefrom. Claim 29 also recites that the projections taper as they extend away from the body and are arranged in rows of projections extending diagonally across the body so as to define grooves between adjacent rows extending diagonally across the body. Arranging the projections in diagonal rows, rather than in horizontal rows, is advantageous because it eliminates vertically-extending channels or grooves between the projections that can retain block-forming material when stripping a block from a mold.

At best, Yasuo discloses a concrete slab having a plurality of pyramid-shaped projections arranged in horizontal rows across the slab. Yasuo (and Yoshiyuki) fail to explain why it would be desirable to arrange projections in diagonal rows across a mold wall, as recited in claim 29. Accordingly, claim 29 is not anticipated or rendered obvious by Yoshiyuki or Yasuo (either alone or in combination) and is allowable.

Claims 31-35 depend from claim 29 and are allowable for the reasons given above in support of claim 29 and because each dependent claim sets forth an independently patentable combination of features.

Claim 30 has been rewritten in independent form incorporating the limitations of the claim as previously presented. Claim 30 recites a mold wall having frusto-pyramidal shaped projections. There is no disclosure in Yoshiyuki or Yasuo for a mold wall having frusto-pyramidal shaped projections (nor does the Office action allege that there is such a disclosure in these references).

Claims 36-39

Claim 36 is allowable because neither Yoshiyuki nor Yasuo teaches or suggests a wall for use in a mold for molding a masonry block, comprising a body having first and second major surfaces and a plurality of projections extending outwardly from the first and second major surfaces, as recited in claim 36.

Claims 37-39 depend from claim 36 and are allowable for the reasons given above in support of claim 36 and because each dependent claim sets forth an independently patentable combination of features.

III. Conclusion

The present application is in condition for allowance and such action is respectfully requested. If any further issues remain concerning this application, the Examiner is invited to call the undersigned to discuss such matters.

Respectfully submitted,

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